Health Services & Systems Research Category
Young Scientist Award

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The Efficacy of an Optimised Chest Pain Diagnostic Protocol for South East Asian Primary Care Referrals

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Aims: Patient demand for ambulatory cardiology services in Singapore has grown over the years, with increases in attendant wait times. We aim to evaluate the efficacy and safety of an outpatient diagnostic workflow for stable chest pain patients referred from primary care, with appropriate cardiac tests performed before the cardiology consultation.

Methodology: Chest pain patients referred from primary care were pre-triaged using a standardised cardiovascular-risk diagnostic algorithm and assigned to the relevant functional diagnostic cardiology tests (e.g., treadmill, nuclear perfusion scan) to be performed prior to consultation. Test results were reviewed at patients' first cardiology consultation, as routinely scheduled by the primary care provider. This diagnostic workflow was referred to as the Triage Protocol.

Triage patients (n=519) from April 2015 to January 2016 were compared with a control group (n=297) from April 2014 to January 2015. Patients were frequency matched by age, gender and risk. Risk cohorts were defined as low (<10%), intermediate (10% to <20%) and high risk (>=20%). The primary outcome variable was time-to-diagnosis, and the secondary outcome was mean total visits (i.e., consultations and tests).

Result: A total of 519 Triage patients (mean age 55 ±13, male 53%) and 297 controls (mean age 56 ±11, male 51%) were included. Mean time-to-diagnosis was significantly shorter for Triage patients (36 vs 131 days, p<0.0001). There was a reduction in total visits for Triage versus control patients (2.26 vs 2.81, p<0.0001). Stratification by risk cohorts yielded similar improvements in time-to-diagnosis and total visits, with no significant differences amongst the three risk groups (p=0.1618).

Conclusion: The Triage Protocol significantly decreases time-to-diagnosis and total visits across all risk cohorts in ambulatory chest pain patients and is a useful approach in optimising resources in the busy outpatient setting.